

REMARKS/DISCUSSION OF ISSUES

Applicant thanks the Examiner for acknowledging receipt of the claim for priority and all certified copies of priority documents.

Applicant respectfully requests the Examiner to acknowledge acceptance of the drawings.

The Specification has been amended to insert appropriate Section headings.

Claims 1-7 are pending in the application. Claim 1 has been amended to incorporate the limitations of claim 2, and claim 2 has been cancelled. Claim 3 has been amended to change its dependency from claim 2 to claim 1. A new claim 7 has been added.

Claims 1, 2, 3, 5 and 6 are rejected under 35 USC 102(e) as being anticipated by Huettinger et al. (US 6,181,065).

Huettinger et al. teaches a high pressure lamp with cermet in various parts thereof. In one embodiment, a cermet pin (9) is sintered to a capillary tube (20), which is in turn sintered to closing and sealing means (21). See Fig. 2.

Claim 1 has been amended to incorporate the limitations of claim 2, and claim 2 has been cancelled. In its amended form, claim 1 now calls for the sintered joint between the cermet (45, 55) and the projecting plug (34, 35) to be no more than 0.8 of the length (L) of the projecting plug (34, 35).

Huettinger et al. neither teaches nor suggest such a limitation. While Fig. 2 of the reference shows the pin (9, 10) being sintered to capillary tube (20) along less than the

entire length of tube (20), there is no teaching that the length of sintering must be no more than 0.8L. In fact, Fig. 1 of the reference shows the cermet pin (9, 10) being sintered along the entire length of plug (11).

Thus, Huettinger et al. fail to anticipate or render unpatentable the amended claims, and it is urged that the rejection is in error and should be withdrawn.

A key characteristic of the cermet of pin (9) of Huettinger et al. is that the metal content is so high that the cermet may be welded like a metal. See, e.g., col. 2, lines 57, 58. Thus, the cermet of the pin must contain (by volume) at least 40%, and preferably 45-75%, metal.

In contrast, Applicant teaches a cermet with a composition containing metal in the amount of 30% by volume. Accordingly, a new claim 7 has been added, which specifies that the composition of the cermet is approximately  $\text{Al}_2\text{O}_3$  (70% by volume) and Mo (30% by volume). Support for this limitation may be found at page 4, line 6 of the Specification.

Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Huettinger et al. in view of Pabst et al. (US 5,075,587).

Pabst et al. is cited to show a lead through 10' having a tapered shape adjacent the end and is provided with a narrowed portion, referring specifically to Fig. 3 of the reference.

However, the lead through or plug 10' of Pabst et al. is not at all similar to the composite ceramic/cermet lead through of Huettinger et al., but rather is a single body of tungsten which is sealed directly to the outer wall of the discharge

vessel 8'. A cermet plug was considered, but was rejected by Pabst et al. as being expensive to manufacture and resulting in an unsatisfactory lamp lifetime. See col. 1, lines 51-56.

In contrast, Huettinger et al. point out that the connection between ceramic and metal is not a secure bond, so that such a seal has an unlimited lifetime. See col 1, lines 51-53. To overcome this problem, a combination of ceramic/cermet and cermet/metal seals are employed.

Thus, the teachings of the two references are in direct conflict, both as to materials and structure of the lead through, and the skilled practitioner would not be led to combine their teachings in the manner urged by the Examiner.

Moreover, Pabst et al. teach that the end portion of the pin 16 may be formed differently, for example, instead of being formed as a reduced portion, it could have grooves formed therein. See col. 5, lines 9-11. Neither structure is urged as more desirable than the other.

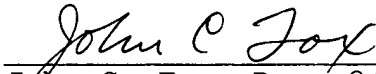
Even if the tungsten plug with the reduced end portion of Pabst et al. were substituted for the ceramic/cermet lead through of Huettinger et al., it would not result in the structure of claim 4, in which the cermet is sealed to a projecting plug, rather than being sealed directly to the wall of the ceramic discharge vessel, as in Pabst et al.

Accordingly, claim 4 is not obvious over Huettinger et al. in view of Pabst et al., and it is urged that the rejection is in error and should be withdrawn.

In view of the foregoing, Applicant respectfully requests that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be

resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

  
John C. Fox, Reg. 24,975  
Consulting Patent Attorney  
203-329-6584